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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/544,203	08/02/2005	Minne Van Der Veen	NL 030107	8135

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EXAMINER

LAFORGIA, CHRISTIAN A

ART UNIT

PAPER NUMBER

2131

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/544,203		VAN DER VEEN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Christian La Forgia		2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/23/07</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The amendment of 06 April 2007 has been noted and made of record.
2. Claims 1-12 and 14 have been presented for examination.
3. Claim 13 has been cancelled as per Applicant's request.

### ***Response to Arguments***

4. Applicant's arguments, see page 8, filed 06 April 2007, with respect to objections to the specification have been fully considered and are persuasive. The objection of the specification has been withdrawn.
5. Applicant's arguments, see page 8, filed 06 April 2007, with respect to the 112 rejection of claim 4 have been fully considered and are persuasive. The rejection of claim 4 has been withdrawn.
6. Applicant's arguments filed 06 April 2007 with respect to the prior art rejection of claims 1-12 and newly presented claim 14 have been fully considered but they are not persuasive.
7. In response to the Applicant's arguments on page 9 that Watson does not disclose comparing the processed signal with the information signal to determine a measure of perceptual quality of the processed signal, the Examiner disagrees. The Examiner directs the Applicant's attention to Figure 29, specifically steps 50, 52, 54, and 56, all relating the perceptual quality of the processed signal. The description of figure 29 can be found at paragraphs 0225-0227. Since, Watson discloses comparing the processed signal with the information signal to determine a measure of perceptual quality of the processed signal the rejection is proper and therefore maintained.

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8. In response to the Applicant's arguments on page 9 that Watson does not disclose adjusting said at least one control parameter in response to the determined measure of perceptual quality the Examiner again disagrees. The Examiner calls on Figure 29 again, this time elements 56 and 58, specifically the coding parameter adjustment. This is also shown in Figure 30 element 62. Furthermore, Watson goes into further detail regarding parameter adjustment at least in paragraphs 0225-0227. Watson discloses adjusting said at least one control parameter in response to the determined measure of perceptual quality with regards to these figures and related descriptions, as well as those cited sections from the previous rejection; therefore, the rejection of independent claims 1, 11, and newly presented 14 is proper and maintained.

9. In response to applicant's argument on page 9 that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies, such as the measure of perceptual quality is indicative of a perceivable change in the information content of the information signal caused by the signal modification process, are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

10. Applicant's arguments regarding claims 2-10 and 12 fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

11. With regards to the Applicant's arguments on page 10, regarding claims 2 and 3, the Examiner disagrees. The windowing disclosed by Watson is a process used to decompose the

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signal into a series of segments as can be seen by the non-patent literature cited by the Examiner entitled "On the Use of Windows for Harmonic Analysis with the Discrete Fourier Transform."

Furthermore, the Applicant admits to a series of windows, thereby meeting the limitation a subsequent segment. Subsequent is defined as occurring or coming later or after, therefore any window that came after the original would be a subsequent window (or segment), regardless if any overlapping occurred or not.

12. See further rejections that follow.

***Information Disclosure Statement***

13. The information disclosure statement (IDS) submitted on 23 January 2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

***Specification***

14. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The specification fails to provide any disclosure for newly presented claim 14, specifically the computer program product and the computer-readable medium it is embodied upon. One of ordinary skill in the art cannot ascertain the intended scope the claim is suppose to cover. Correction is required.

***Claim Rejections - 35 USC § 101***

15. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

16. Claim 14 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. One of ordinary skill in the art could reasonable interpret the

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computer-readable medium as being 1) a transmission medium (i.e. instructions via a computer network) as disclosed in paragraph 0062 of US 2006/0140406 (the Application Publication of the instant application) or 2) as a carrier wave, as the claim is directed to processing signals. The Office's current position is that claims involving signals encoded with functional descriptive material do not fall within any of the categories of patentable subject matter set forth in 35 U.S.C. § 101, and such claims are therefore ineligible for patent protection. *See* 1300 OG 142 (November 22, 2005) (in particular, see Annex IV(c)).

***Claim Rejections - 35 USC § 102***

17. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

18. Claims 1-12 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0024588 to Watson et al., hereinafter Watson.

19. As per claims 1, 11, and 14, Watson teaches a method of processing an information signal and a computer program product, the method and computer program product comprising:  
applying a signal modification process to an information signal resulting in a processed signal (paragraphs [0029], [0127], i.e. embedding watermark information in the encoded signal), said signal modification process being controlled by at least one control parameter (Figure 29, paragraphs [0029], [0031], i.e. modulating one or more parameters);

comparing the processed signal with the information signal to determine a measure of perceptual quality of the processed signal (Figures 24 [block 24], 25 [block 32], 26 [block 32], paragraph [0212], i.e. compares the original input signal with the encoded signal);

adjusting said at least one control parameter in response to the determined measure of perceptual quality (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraphs [0212]-[0213], [0235]-[0244], i.e. adjusting parameters to improve the imperceptibility of the watermark).

20. Regarding claim 2, Watson teaches dividing the information signal into a sequence of segments of the information signal (paragraph [0126], i.e. decomposing the input signal into one or more components);

wherein the step of applying the signal modification process comprises applying the signal modification process to a first one of said segments of the information signal resulting in a first segment of the processed signal (paragraphs [0130]-[0144], i.e. applying the function to the first sample with correlation to the correct window sequence);

wherein the step of comparing the processed signal with the information signal comprises comparing said first segment of the processed signal with said first segment of the information signal (Figures 4, 5, paragraph [0146], i.e. comparing the source material and the watermarked data); and

wherein the method further comprises applying at least a part of the signal modification process to a second one of said segments of the information signal resulting in a second segment of the processed signal, the at least part of the signal modification process being controlled by said adjusted at least one control parameter (paragraph [0129], i.e. modulating the window parameter adaptively in time depending on signal characteristics).

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21. With regards to claim 3, Watson teaches wherein the second segment of the information signal is a segment subsequent to the first segment of the information signal in the sequence of segments of the information signal (Figures 15, 16, paragraphs [0126], [0142]-[0144]).

22. With regards to claim 4, Watson teaches wherein the first segment of the information signal being delayed to compensate for a duration of the steps of comparing the processed signal with the information signal (Figure 3A, paragraph [0108], i.e. delay functions so the signal can be compared to a time-delayed version) and of adjusting the at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraph [0212]-[0213], [0235]-[0244]).

23. Regarding claim 5, Watson teaches delaying the information signal to compensate for a duration of the steps of comparing the processed signal with the information signal (Figure 3A, paragraph [0108], i.e. delay functions so the signal can be compared to a time-delayed version) and of adjusting the at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraph [0212]-[0213], [0235]-[0244]); and

applying at least a part of the signal modification process to the delayed information signal resulting in a modified processed signal, the at least part of the signal modification process being controlled by the adjusted at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraphs [0108]-[0109], [0212]-[0213], [0235]-[0244]).



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24. Regarding claim 6, Watson teaches wherein the signal modification process comprises determining a watermark signal according to a watermark-embedding model (paragraphs [0002]-[0009], [0100]);

embedding the determined watermark signal in the information signal (paragraphs [0213], [0218]).

25. With regards to claim 7, Watson teaches wherein the signal modification process comprises determining a watermark signal according to a watermark embedding model (paragraphs [0002]-[0009], [0100]);

embedding the determined watermark signal in the information signal (paragraphs [0213], [0218]);

wherein the step of embedding the determined watermark signal is controlled by the at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraphs [0212]-[0213], [0235]-[0244]); and

wherein the step of applying at least a part of the signal modification process to the information signal comprises delaying the information signal resulting in a delayed signal (Figure 3A, paragraph [0108]); and

embedding the determined watermark signal in the delayed signal, the embedding being controlled by the adjusted at least one control parameter (Figures 24 [block 26], 25 [block 34], 26 [block 38], 30 [block 62], paragraphs [0108]-[0109], [0212]-[0213], [0235]-[0244]).

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26. With regards to claim 8, Watson teaches wherein the information signal is an audio signal and the watermark-embedding model comprises a psycho-acoustic model of the human auditory system (paragraphs [0010]-[0012], [0041], [0129], [0213]).

27. Regarding claim 9, Watson teaches wherein the information signal is an audio signal (paragraph [0029]) and the signal modification process comprises an audio coding process (paragraph [0042]-[0044], i.e. encoding the primary source signal).

28. Concerning claim 10, Watson teaches wherein the information signal is an audio signal (paragraph [0029]) and the signal modification process comprises an audio coding process (paragraph [0042]-[0044]) comprising determining a bit-allocation pattern for coding audio signal (Figures 24 [block 24], 29 [block 46], paragraphs [0213]-[0214], [0225]); and

performing a quantization of the audio signal according to the determined bit-allocation resulting in a quantized signal (Figures 24 [block 26], paragraphs [0213]-[0215]);

wherein the step of comparing the processed signal with the information signal (Figure 29 [blocks 52, 54], paragraph [0225]) comprises reconstructing the audio signal from the quantized signal (Figure 29 [block 48], paragraph [0225], i.e. inverse quantization); and

comparing the reconstructed signal with the audio signal (Figure 29 [blocks 52, 54], paragraph [0225]);

wherein the step of adjusting said at least one control parameter comprises adjusting the bit-allocation (Figures 24, 29 [block 58], paragraphs [0213]-[0214], [0225]); and

wherein the step of applying at least a part of the signal modification process to the information signal comprises delaying the audio signal resulting in a delayed signal (Figure 3A, paragraph [0108]); and

performing a quantization of the delayed signal according to the adjusted bit-allocation resulting in a processed quantized signal (Figures 24, 29 [block 58], paragraphs [0213]-[0214], [0225]).

29. Regarding claim 12, Watson discloses a device comprising an arrangement according to claim 11 (paragraph [0029], i.e. perceptual coding system).

#### ***Conclusion***

30. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

31. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian La Forgia whose telephone number is (571) 272-3792.

The examiner can normally be reached on Monday thru Thursday 7-5.

33. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

34. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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PRIMARY EXAMINER

